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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,483	02/07/2002	Tomokuni Wauke	9281-4277	3345

757 7590 10.06/2003

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EXAMINER

PHAM, LEDA T

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/072,483	WAUKE, TOMOKUNI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Leda T. Pham	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-7 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/7/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2/7/02.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Preliminary Amendment***

1. Preliminary Amendment filed on 2/7/02 has been entered and made of record in the file.  
Claims 1 – 7 are presented for examination.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the front end centers, and the unequal of numbers of turns of adjacent coils must be shown or the feature(s) canceled from the claim(s).  
No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this claim, “front end centers” is indefinite because the term does not clearly define in the specification, and also in drawing. In order to exam, “the front end centers” are understood as centers defining at the rotor facing sides of the magnetic pole teeth.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1- 2, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Andrey (U.S. Patent No. 5,723,931).

Referring to claim 1, Andrey teaches an inner-rotor motor (figure 16) including a rotor (1601) having plural magnetic poles (1602) disposed circumferentially, and a stator (1603) having a stator core with plural magnetic pole teeth facing to the rotor, located outside a circumference of the rotor, which have coils each wound around thereof, wherein numbers of turns of adjacent coils are unequal (figure 12, the percent of turns see as the number of turns), and respective sums of the numbers of turns of the coils in respective phases are equal (total percent of turns of each phase is 100%).

Referring to claim 2, inherently, when the numbers of turns of adjacent coils are unequal, and respective sums of the numbers of turns of the coils in respective phases are equal as discussing in claim 1, then the lengths of adjacent windings of the coils are unequal, and respective sums of the lengths of the windings corresponding to respective phases of the coils are equal in the same winding for each coil with equally slots and teeth (line 10 – 15, column 6).

Referring to claim 5, Andrey teaches the inner rotor motor wherein the stator is placed within a central angle 180° with regard to a rotational center of the rotor (figure 16).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrey in view of Nashiki (U.S. Patent No. 6,285,104 B1).

Referring to claim 4, Andrey teaches the claimed invention except for the added limitation of the base end centers of the adjacent coils are places with an equal spacing.

Nashiki teaches a motor with reduced torque ripple wherein the base end centers of the adjacent coils are places with an equal spacing (figure 1, 37 equally teeth) for reducing the torque ripple.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inner rotor motor with the base end centers of the adjacent coils having equally spacing as taught by Nashiki. Doing so would decrease vibration and noise of the motor.

Referring to claim 6, Nashiki teaches the inner rotor motor wherein the stator is provided with six of the coils (figure 1).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al (U.S. Patent No. 6,265,800 B1) in view of Andrey.

Kimura teaches a disk drive incorporating permanent magnet generator with reduced cogging torque and permanent magnet generator for use in diskette. However, Kimura does not teach the disk drive comprising the inner rotor motor.

Andrey teaches the inner rotor motor using for many applications with requiring smooth low –speed operation.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kimura's disk drive having the inner rotor motor as taught by Andrey. Doing so would make to disk drive rotated smoothly in low speed operation.

***Allowable Subject Matter***

10. Claim 3 is would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The following is an examiner's statement of reasons for allowance: the record of prior art does not show the inner rotor motor having at least one of points at which extensions of lines connecting base end centers and front end centers of the adjacent coils intersect is positioned on an opposite side to the coils with regard to a rotational center of the rotor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

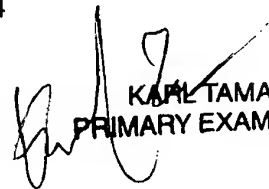
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (703) 305-4864. The examiner can normally be reached on M-F (7:30-5:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

Leda T. Pham  
Examiner  
Art Unit 2834

LTP

  
KARL TAMAI  
PRIMARY EXAMINER